

WHAT IS CLAIMED IS

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1. An apparatus for transmission between subscriber terminals and digital switches that employ a 4:1 time-division-multiplexing scheme, comprising:

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a main path for carrying signals between the subscriber terminals and digital switches;

a control path which is separate from said main path and carries control information for maintenance purpose; and

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an interface-&-control unit which converts the control information so as to conform to specifications of the said digital switches wherein the conversion of the control information is based on switch settings made to said interface-&-control unit.

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2. The apparatus as claimed in claim 1, further comprising a cross-connect unit which provides cross connections, and switches between the 4:1 time-division-multiplexing scheme and a 3DS0 time-division-multiplexing scheme with respect to each subscriber.

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3. The apparatus as claimed in claim 1, further comprising:

a multiplexing/demultiplexing unit serving

as interface for analog switches; and

a cross-connect unit which selects said multiplexing/demultiplexing unit as interface to establish connection between the subscriber  
5 terminals and the analog switches.

10 4. An apparatus for transmission between subscriber terminals and digital switches that employ a 4:1 time-division-multiplexing scheme, comprising:

a main path for carrying signals between  
15 the subscriber terminals and digital switches;

a control path which is separate from said main path and carries control information for maintenance purpose; and

a subscriber-side interface unit which  
20 transmits an alarm notification to the digital switches via said control path wherein the alarm notification conforms to specifications of said digital switches based on switch settings made to said subscriber-side interface unit.

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5. The apparatus as claimed in claim 4,  
30 wherein said subscriber-side interface unit is provided with a function of EOC/eoc conversion.

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6. The apparatus as claimed in claim 4, wherein said subscriber-side interface unit is

provided with a function of EOC/I-bit conversion.

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7. The apparatus as claimed in claim 4,  
further comprising a cross-connect unit which  
provides cross connections, and switches between the  
4:1 time-division-multiplexing scheme and a 3DS0  
10 time-division-multiplexing scheme with respect to  
each subscriber.

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8. The apparatus as claimed in claim 7,  
wherein said cross-connect unit has service statuses  
and provisioning thereof set through remote  
controlling.

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9. The apparatus as claimed in claim 7,  
25 wherein said cross-connect unit is provided with a  
function of establishing cross connection between a  
given user and any given subscriber number of any  
given switch.

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10. The apparatus as claimed in claim 4,  
further comprising:  
35 a multiplexing/demultiplexing unit serving  
as interface for analog switches; and  
a cross-connect unit which selects said

multiplexing/demultiplexing unit as interface to establish connection between the subscriber terminals and the analog switches.